

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (previously presented) An interbody spinal fusion implant for insertion across a disc space between adjacent vertebral bodies of a human spine, said implant comprising a body having an insertion end, a trailing end, a length between said ends, and an outer surface including a thread for engaging said implant to the adjacent vertebral bodies, the outer locus of said thread forming a substantially frusto-conical configuration along at least a portion of the length of said implant nearer said trailing end than said insertion end.
2. (previously presented) The implant of claim 1 in which said body has a substantially frusto-conical configuration along a sufficient portion of said implant that is adapted to contact the adjacent vertebral bodies when implanted in the spine so as to maintain an angulation of the adjacent vertebral bodies relative to one another.
3. (original) The implant of claim 1 in which said body has a substantially cylindrical configuration.
4. (original) The spinal fusion implant of claim 1 in which said trailing end is larger than said insertion end.
5. (original) The spinal fusion implant of claim 1 in which said insertion end is larger than said trailing end.
6. (original) The spinal fusion implant of claim 1 in which said implant comprises a bone ingrowth material.
7. (original) The spinal fusion implant of claim 1 in which said implant comprises a fusion promoting material.
8. (original) The spinal fusion implant of claim 1 in which said implant is at least in part bioabsorbable.

9. (previously presented) The spinal fusion implant of claim 1 in which said body has a plurality of openings for retaining fusion promoting material.
10. (cancelled).
11. (previously presented) The spinal fusion implant of claim 1 in which said thread has a thread radius measured from the longitudinal central axis of said implant, said thread radius being variable along the length of said implant.
12. (previously presented) The spinal fusion implant of claim 1 in which said thread has a thread height measured from said body which is variable along the length of said implant.
13. (previously presented) The spinal fusion implant of claim 1 in which said thread beyond said insertion end has a thread height measured from said body which is substantially constant along the length of said implant.
14. (previously presented) The spinal fusion implant of claim 1 in which said body comprises a porous material.
15. (previously presented) The spinal fusion implant of claim 1 in which said body has an internal chamber and means for accessing said internal chamber.
16. (previously presented) The spinal fusion implant of claim 15 in which said internal chamber is capable of containing fusion promoting material.
17. (previously presented) The spinal fusion implant of claim 15 in which said body includes a wall surrounding said internal chamber.
18. (previously presented) The spinal fusion implant of claim 17 in which said wall has a plurality of openings passing therethrough in communication with said internal chamber.
19. (previously presented) The spinal fusion implant of claim 15 in which said body has means for closing said accessing means.
20. (currently amended) The spinal fusion implant of claim 16 in which said ~~implant~~ body has means for closing said accessing means.
21. (original) The spinal fusion implant of claim 1 in which said implant includes an engagement means for engaging instrumentation for the insertion of said implant.

22. (original) The spinal fusion implant of claim 1 in which at least a portion of said outer surface comprises wells having at least partial walls.
23. (previously presented) The spinal fusion implant of claim 1 in which said body has a longitudinal central axis and at least one truncated side forming a planar surface parallel to said central axis.
24. (previously presented) The spinal fusion implant of claim 23 in which said thread has a thread height measured from said body which is greatest at said truncated side.
25. (previously presented) An interbody spinal fusion implant for insertion across a disc space between two adjacent vertebral bodies of a human spine, said implant comprising a body having a substantially frusto-conical configuration along a sufficient portion of said body that is adapted to contact the adjacent vertebral bodies when implanted in the spine so as to maintain an angulation of the adjacent vertebral bodies relative to one another, said body having an insertion end, a trailing end, and an outer surface including a thread for engaging said implant to the adjacent vertebral bodies of the spine, the locus of said thread forming a substantially cylindrical configuration.
26. (cancelled).
27. (cancelled).
28. (previously presented) The spinal fusion implant of claim 25 in which said trailing end is larger than said insertion end.
29. (previously presented) The spinal fusion implant of claim 25 in which said insertion end is larger than said trailing end.
30. (previously presented) The spinal fusion implant of claim 25 in which said implant comprises a bone ingrowth material.
31. (previously presented) The spinal fusion implant of claim 25 in which said implant comprises a fusion promoting material.
32. (previously presented) The spinal fusion implant of claim 25 in which said implant is at least in part bioabsorbable.
33. (previously presented) The spinal fusion implant of claim 25 in which said body has a plurality of openings for retaining fusion promoting material.

34. (previously presented) The spinal fusion implant of claim 25 in which said thread beyond said insertion end has a thread radius measured from the longitudinal central axis of said implant, said thread radius being substantially uniform throughout the length of said implant.
35. (previously presented) The spinal fusion implant of claim 25 in which said thread has a thread radius measured from the longitudinal central axis of said implant, said thread radius being variable along at least a portion of said implant.
36. (previously presented) The spinal fusion implant of claim 25 in which said thread has a thread height measured from said body which is variable along the length of said implant.
37. (previously presented) The spinal fusion implant of claim 25 in which said thread has a thread height measured from said body which is substantially constant along at least a portion of said implant.
38. (previously presented) The spinal fusion implant of claim 25 in which said body comprises a porous material.
39. (previously presented) The spinal fusion implant of claim 25 in which said body has an internal chamber and means for accessing said internal chamber.
40. (previously presented) The spinal fusion implant of claim 39 in which said internal chamber is capable of containing fusion promoting material.
41. (previously presented) The spinal fusion implant of claim 39 in which said body includes a wall surrounding said internal chamber.
42. (previously presented) The spinal fusion implant of claim 41 in which said wall has a plurality of openings passing therethrough in communication with said internal chamber.
43. (previously presented) The spinal fusion implant of claim 39 in which said body has means for closing said accessing means.
44. (previously presented) The spinal fusion implant of claim 25 in which one of said ends includes an engagement means for engaging instrumentation for the insertion of said implant.
45. (previously presented) The spinal fusion implant of claim 25 in which at least a portion of said outer surface comprises wells having at least partial walls.

46. (previously presented) The spinal fusion implant of claim 25 in which said implant is configured to be placed in close proximity in a side by side alignment to a second spinal fusion implant, said first and second implants when placed together having a combined overall width that is less than the sum of the individual maximum diameters of each of said first and second implants.
47. (previously presented) The spinal fusion implant of claim 25 in which said body has a longitudinal central axis and at least one truncated side forming a planar surface parallel to said central axis.
48. (previously presented) The spinal fusion implant of claim 47 in which said thread has a thread height measured from said body which is greatest at said truncated side.
49. (previously presented) An interbody spinal fusion implant for insertion across a disc space between adjacent vertebral bodies of a human spine, said implant comprising a body having a substantially cylindrical configuration, a longitudinal central axis and at least one truncated side forming a planar surface parallel to said central axis, said body having an insertion end, a trailing end, and an outer surface including a thread for engaging said implant to the adjacent vertebral bodies of the spine, the locus of said thread forming a substantially cylindrical configuration.
50. (previously presented) The spinal fusion implant of claim 49 in which said implant comprises a bone ingrowth material.
51. (previously presented) The spinal fusion implant of claim 49 in which said implant comprises a fusion promoting material.
52. (previously presented) The spinal fusion implant of claim 49 in which said implant is at least in part bioabsorbable
53. (previously presented) The spinal fusion implant of claim 49 having a plurality of openings capable retaining fusion promoting material.
54. (previously presented) The spinal fusion implant of claim 49 in which said thread has a thread radius measured from the longitudinal central axis of said implant, said thread radius being substantially uniform for at least a portion of said implant.

55. (previously presented) The spinal fusion implant of claim 49 in which said thread has a thread radius measured from the longitudinal central axis of said implant, said thread radius being variable along at least a portion of said implant.
56. (previously presented) The spinal fusion implant of claim 49 in which said thread has a thread height measured from said body which is variable along at least a portion of said implant.
57. (previously presented) The spinal fusion implant of claim 49 in which said thread has a thread height measured from said body which is substantially constant along the length of said implant.
58. (previously presented) The spinal fusion implant of claim 49 body comprises a porous material.
59. (previously presented) The spinal fusion implant of claim 49 in which said body has an internal chamber and means for accessing said internal chamber.
60. (previously presented) The spinal fusion implant of claim 59 in which said internal chamber is capable of containing fusion promoting material.
61. (previously presented) The spinal fusion implant of claim 59 in which said includes a wall surrounding said internal chamber.
62. (previously presented) The spinal fusion implant of claim 59 in which said wall has a plurality of openings passing therethrough in communication with said internal chamber.
63. (previously presented) The spinal fusion implant of claim 59 in which said implant has means for closing said accessing means.
64. (previously presented) The spinal fusion implant of claim 49 in which one of said ends includes an engagement means for engaging instrumentation for the insertion of said implant.
65. (previously presented) The spinal fusion implant of claim 49 in which at least a portion of said outer surface comprises wells having at least partial walls.
66. (previously presented) The spinal fusion implant of claim 49 in which said implant is configured to be placed in close proximity in a side by side alignment to a second spinal fusion implant, said first and second implants when placed

- together having a combined overall width that is less than the sum of the individual maximum diameters of each of said first and second implants.
67. (previously presented) The spinal fusion implant of claim 49 in which said body has a second truncated side forming a planar surface parallel to said central axis and opposite to said one truncated side.
 68. (previously presented) The spinal fusion implant of claim 67 in which said thread has a thread height measured from said body which is greatest at at least one of said truncated sides.
 69. (previously presented) An interbody spinal fusion implant for insertion across a disc space between two adjacent vertebral bodies, said implant comprising a body having a substantially frusto-conical configuration along a sufficient portion of said body that is adapted to contact the adjacent vertebral bodies when implanted in the spine so as to maintain an angulation of the adjacent vertebral bodies relative to one another, said body having, an insertion end, a trailing end, and an outer surface including a thread for engaging said implant to the adjacent vertebral bodies of the spine, said implant being made of a material appropriate for human implantation.
 70. (previously presented) The implant of claim 69 in which the outer locus of said thread forms a substantially cylindrical configuration.
 71. (previously presented) The spinal fusion implant of claim 69 in which said insertion end is larger than said trailing end.
 72. (previously presented) The spinal fusion implant of claim 71 in which said insertion end comprises a tapered leading portion.
 73. (previously presented) The spinal fusion implant of claim 69 in which said trailing end is larger than said insertion end.
 74. (previously presented) The spinal fusion implant of claim 69 in which said implant comprises a bone ingrowth material.
 75. (previously presented) The spinal fusion implant of claim 69 in which said implant comprises a fusion promoting material.
 76. (previously presented) The spinal fusion implant of claim 69 in which said implant is at least in part bioabsorbable.

77. (previously presented) The spinal fusion implant of claim 69 in which said body has a plurality of openings for retaining fusion promoting material.
78. (previously presented) The spinal fusion implant of claim 69 in which said thread has a thread radius measured from the longitudinal central axis of said implant, said thread radius being substantially uniform throughout the length of said implant.
79. (previously presented) The spinal fusion implant of claim 69 in which said thread has a thread radius measured from the longitudinal central axis of said implant, said thread radius being variable along the length of said implant.
80. (previously presented) The spinal fusion implant of claim 69 in which said thread has a thread height measured from said body which is variable along the length of said implant.
81. (previously presented) The spinal fusion implant of claim 69 in which said thread has a thread height measured from said body which is substantially constant along the length of said implant.
82. (previously presented) The spinal fusion implant of claim 69 in which said body comprises a porous material.
83. (previously presented) The spinal fusion implant of claim 69 in which said body has an internal chamber and an access opening for accessing said internal chamber.
84. (previously presented) The spinal fusion implant of claim 83 in which said internal chamber is capable of retaining fusion promoting material.
85. (previously presented) The spinal fusion implant of claim 83 in which said body includes a wall surrounding said internal chamber.
86. (previously presented) The spinal fusion implant of claim 85 in which said wall has a plurality of openings passing therethrough in communication with said internal chamber.
87. (previously presented) The spinal fusion implant of claim 83 in which said body has means for closing said accessing means.
88. (previously presented) The spinal fusion implant of claim 69 in which one of said ends includes an engagement means for engaging instrumentation for the

insertion of said implant.

89. (previously presented) The spinal fusion implant of claim 69 in which at least a portion of said outer surface comprises wells having at least partial walls.
90. (previously presented) The spinal fusion implant of claim 69 in which said implant is configured to be placed in close proximity in a side by side alignment to a second spinal fusion implant, said first and second implants when placed together having a combined overall width that is less than the sum of the individual maximum diameters of each of said first and second implants.
91. (previously presented) The spinal fusion implant of claim 69 in which said body has a longitudinal central axis and at least one truncated side forming a planar surface parallel to said central axis.
92. (previously presented) The spinal fusion implant of claim 91 in which said thread has a thread height which when measured from said body is at its greatest on said truncated side.
93. (previously presented) The spinal fusion implant of claim 49 in which said thread has a thread height measured from said body which is greatest at said truncated side.
94. (previously presented) The spinal fusion implant of claim 25 in which said implant has an upper and lower portion for engaging the bone of the adjacent vertebral bodies, said upper and lower portions comprising a plurality of macroscopic openings.
95. (previously presented) The spinal fusion implant of claim 49 in which said implant has an upper and lower portion for engaging the bone of the adjacent vertebral bodies, said upper and lower portions comprising a plurality of macroscopic openings.
96. (previously presented) The spinal fusion implant of claim 69 in which said implant has an upper and lower portion for engaging the bone of the adjacent vertebral bodies, said upper and lower portions comprising a plurality of macroscopic openings.
97. (previously presented) The spinal fusion implant of claim 23 in which said thread is continuous over at least a portion of said truncated side.

98. (previously presented) he spinal fusion implant of claim 1 in which said thread has a height measured from said body that is larger at said trailing end than at said insertion end.
99. (previously presented) The spinal fusion implant of claim 1 in which said body has a plurality of openings passing therethrough so as to allow bone to grow from adjacent vertebral body to adjacent vertebral body and through said implant.
100. (previously presented) The spinal fusion implant of claim 23 in which said body has a second truncated side forming a planar surface parallel to said central axis and opposite to said one truncated side.
101. (previously presented) The spinal fusion implant of claim 25 in which said thread has a height measured from said body that is larger at said trailing end than at said insertion end.
102. (previously presented) The spinal fusion implant of claim 25 in which said body has a plurality of openings passing therethrough so as to allow bone to grow from adjacent vertebral body to adjacent vertebral body and through said implant.
103. (previously presented) The spinal fusion implant of claim 47 in which said body has a second truncated side forming a planar surface parallel to said central axis and opposite to said one truncated side.
104. (previously presented) The spinal fusion implant of claim 49 in which said body has a plurality of openings passing therethrough so as to allow bone to grow from adjacent vertebral body to adjacent vertebral body and through said implant.
105. (previously presented) The spinal fusion implant of claim 69 in which said thread has a height measured from said body that is larger at said trailing end than at said insertion end.
106. (previously presented) The spinal fusion implant of claim 69 in which said body has a plurality of openings passing therethrough so as to allow bone to grow from adjacent vertebral body to adjacent vertebral body and through said implant.

107. (previously presented) The spinal fusion implant of claim 91 in which said body has a second truncated side forming a planar surface parallel to said central axis and opposite to said one truncated side.
108. (previously presented) An interbody spinal fusion implant for insertion across a disc space between adjacent vertebral bodies of a human spine, said implant comprising:
 - a body having an outer surface, an insertion end, a trailing end, and a length between said insertion end and said trailing end, said body having transversely opposed arcuate portions oriented toward the adjacent vertebral bodies, said arcuate portions being in a diverging relationship to one another along a sufficient portion of the length of said body adapted to contact the adjacent vertebral bodies sufficient to maintain angulation of the vertebral bodies relative to one another, said outer surface comprising a thread for engaging said implant to the adjacent vertebral bodies of the spine.
109. (previously presented) The spinal fusion implant of claim 108 in which said trailing end is larger than said insertion end.
110. (previously presented) The spinal fusion implant of claim 108 in which said insertion end is larger than said trailing end.
111. (previously presented) The spinal fusion implant of claim 108 in which said body has a plurality of openings for retaining fusion promoting material.
112. (previously presented) The spinal fusion implant of claim 108 in which said thread has a thread radius measured from the longitudinal central axis of said implant, said thread radius being substantially uniform throughout at least a portion of said implant.
113. (previously presented) The spinal fusion implant of claim 108 in which said thread has a thread radius measured from the longitudinal central axis of said implant, said thread radius being variable along the length of said implant.
114. (previously presented) The spinal fusion implant of claim 108 in which said thread has a thread height measured from said body which is variable along the length of said implant.

115. (previously presented) The spinal fusion implant of claim 108 in which said body has an internal chamber and means for accessing said internal chamber.
116. (previously presented) The spinal fusion implant of claim 115 in which said body has means for closing said accessing means.
117. (previously presented) The spinal fusion implant of claim 108 in which at least a portion of said outer surface comprises wells having at least partial walls.
118. (previously presented) The spinal fusion implant of claim 108 in which said implant is configured to be placed in close proximity in a side by side alignment to a second spinal fusion implant, said first and second implants when placed together having a combined overall width that is less than the sum of the individual maximum diameters of each of said first and second implants.
119. (previously presented) The spinal fusion implant of claim 108 in which said body has a longitudinal central axis and at least one truncated side forming a planar surface parallel to said central axis.
120. (cancelled—both occurrences).
121. (previously presented) The spinal fusion implant of the claim 108 in which said arcuate portions are along the entire length of said body.
122. (previously presented) The spinal fusion implant of claim 108 in which the outer locus of the thread forms a substantially cylindrical configuration.
123. (previously presented) The spinal fusion implant of claim 108 in which the outer locus of the thread forms a substantially frusto-conical configuration.
124. (previously presented) The spinal fusion implant of claim 108 in which said implant is made of a material that is stronger than bone.
125. (previously presented) The spinal fusion implant of claim 1 in which said implant is made of a material that is stronger than bone.
126. (previously presented) The spinal fusion implant of claim 25 in which said implant is made of a material that is stronger than bone.
127. (previously presented) The spinal fusion implant of claim 49 in which said implant is made of a material that is stronger than bone.
128. (previously presented) The spinal fusion implant of claim 69 in which said implant is made of a material that is stronger than bone.

129. (previously presented) The spinal fusion implant of claim 1 in which said body has a length in the range of 10-32mm.
130. (previously presented) The spinal fusion implant of claim 25 in which said body has a length in the range of 10-32mm.
131. (previously presented) The spinal fusion implant of claim 49 in which said body has a length in the range of 10-32mm.
132. (previously presented) The spinal fusion implant of claim 69 in which said body has a length in the range of 10-32mm.
133. (previously presented) The spinal fusion implant of claim 108 in which said length is in the range of 10-32mm.
134. (previously presented) The spinal fusion implant of claim 1 having a diameter at said insertion end in the range of 8-22mm.
135. (previously presented) The spinal fusion implant of claim 25 having a diameter at said insertion end in the range of 8-22mm.
136. (previously presented) The spinal fusion implant of claim 49 having a diameter at said insertion end in the range of 8-22mm.
137. (previously presented) The spinal fusion implant of claim 69 having a diameter at said insertion end in the range of 8-22mm.
138. (previously presented) The spinal fusion implant of claim 108 having a diameter at said insertion end in the range of 8-22mm.
139. (previously presented) The spinal fusion implant of claim 1 having a diameter at said trailing end in the range of 10-24mm.
140. (previously presented) The spinal fusion implant of claim 25 having a diameter at said trailing end in the range of 10-24mm.
141. (previously presented) The spinal fusion implant of claim 49 having a diameter at said trailing end in the range of 10-24mm.
142. (previously presented) The spinal fusion implant of claim 69 having a diameter at said trailing end in the range of 10-24mm.
143. (previously presented) The spinal fusion implant of claim 108 having a diameter at said trailing end in the range of 10-24mm.

144. (previously presented) A fusion device for facilitating arthrodesis in the disc space between adjacent vertebrae, comprising:
- an elongated body having a length, a first diameter at a first end and a larger second diameter at a second end opposite said first end, said first and second diameters sized to be greater than the space between the adjacent vertebrae;
- said body having an outer surface that is substantially continuously tapered from said first end to said second end with external threads defined on said outer surface and extending substantially entirely along said length of said body.
145. (previously presented) The fusion device according to claim 144, wherein said body is formed of a porous biocompatible material to permit bone tissue ingrowth into the device.
146. (previously presented) The fusion device according to claim 145 wherein said material is a composite comprising an open-celled substrate having interconnected porosity, said substrate infiltrated with a metal.
147. (previously presented) The fusion device according to claim 146 wherein said substrate is a carbonaceous material.
148. (previously presented) The spinal fusion implant of claim 119 in which said body has a second truncated side forming a planar surface parallel to said central axis and opposite to said one truncated side.
149. (previously presented) The spinal fusion implant of claim 108 in which said body has a plurality of openings passing therethrough so as to allow bone to grow from adjacent vertebral body to adjacent vertebral body and through said implant.
150. (previously presented) The spinal fusion implant of claim 1 in which said thread has a thread radius measured from the longitudinal central axis of said implant, said thread radius being substantially uniform throughout at least a portion of said implant.
151. (previously presented) The spinal fusion implant of claim 25 in which said body has a substantially frusto-conical configuration.

152. (previously presented) The spinal fusion implant of claim 25 in which said body has at least in part a cylindrical configuration.
153. (previously presented) The spinal fusion implant of claim 1, further in combination with a fusion promoting substance.
154. (previously presented) The spinal fusion implant of claim 153, wherein said fusion promoting substance is bone morphogenetic protein.
155. (previously presented) The spinal fusion implant of claim 153, wherein said fusion promoting substance includes hydroxyapatite.
156. (previously presented) The spinal fusion implant of claim 153, wherein said fusion promoting substance includes hydroxyapatite tricalcium phosphate.
157. (cancelled).
158. (previously presented) The spinal fusion implant of claim 153, wherein said fusion promoting substance is bone.
159. (previously presented) The spinal fusion implant of claim 25, further in combination with a fusion promoting substance.
160. (previously presented) The spinal fusion implant of claim 159, wherein said fusion promoting substance is bone morphogenetic protein.
161. (previously presented) The spinal fusion implant of claim 159, wherein said fusion promoting substance includes hydroxyapatite.
162. (previously presented) The spinal fusion implant of claim 159, wherein said fusion promoting substance includes hydroxyapatite tricalcium phosphate.
163. (cancelled).
164. (previously presented) The spinal fusion implant of claim 159, wherein said fusion promoting substance is bone.
165. (previously presented) The spinal fusion implant of claim 49, further in combination with a fusion promoting substance.
166. (previously presented) The spinal fusion implant of claim 165, wherein said fusion promoting substance is bone morphogenetic protein.
167. (previously presented) The spinal fusion implant of claim 165, wherein said fusion promoting substance includes hydroxyapatite.

168. (previously presented) The spinal fusion implant of claim 165, wherein said fusion promoting substance includes hydroxyapatite tricalcium phosphate.
 169. (cancelled).
 170. (previously presented) The spinal fusion implant of claim 165, wherein said fusion promoting substance is bone.
 171. (previously presented) The spinal fusion implant of claim 69, further in combination with a fusion promoting substance.
 172. (previously presented) The spinal fusion implant of claim 171, wherein said fusion promoting substance is bone morphogenetic protein.
 173. (previously presented) The spinal fusion implant of claim 171, wherein said fusion promoting substance includes hydroxyapatite.
 174. (previously presented) The spinal fusion implant of claim 171, wherein said fusion promoting substance includes hydroxyapatite tricalcium phosphate.
 175. (cancelled).
 176. (previously presented) The spinal fusion implant of claim 171, wherein said fusion promoting substance is bone.
 177. (previously presented) The spinal fusion implant of claim 108, further in combination with a fusion promoting substance.
 178. (previously presented) The spinal fusion implant of claim 177, wherein said fusion promoting substance is bone morphogenetic protein.
 179. (previously presented) The spinal fusion implant of claim 177, wherein said fusion promoting substance includes hydroxyapatite.
 180. (previously presented) The spinal fusion implant of claim 177, wherein said fusion promoting substance includes hydroxyapatite tricalcium phosphate.
 181. (cancelled).
 182. (previously presented) The spinal fusion implant of claim 177, wherein said fusion promoting substance is bone.
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